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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/687,142

Applicant(s)

FURST ET AL.

Examiner

LENNIN R. RODRIGUEZ

Art Unit

2625

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 August 2009 and 06 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9 and 33-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 33-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 October 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see pages 5-7 of the Remarks, filed 8/21/2009, with respect to the rejection(s) of claim(s) 1, 2 and 33 under 35 U.S.C. 103(a) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is made in view of Chiba et al. (US 7,187,459), Whale (US 2002/0188504) and Kimura (US 6,226,097).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "edge server" must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

3. The specification is objected because reference character "410" has been used to designate both "an edge host" and "an edge server" throughout the specifications. Given that the drawings only show "an edge host" (410 Fig. 2) it is unclear as to what device does reference character 410 really refers to.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 1-2, 4, 33 and 34 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba et al. (US 7,187,459) in view of Whale (US 2002/0188504) and Kimura (US 6,226,097).

(1) regarding claim 1:

Chiba '459 discloses an embedded system (printer control software 20a in Fig. 1, it has been disclosed in applicant's disclosure that an embedded system in this

particular case is a software element; the system is written strictly for the controlling of a printer, thus satisfying the definition of embedded system) connected to an input-output terminal of an electroreprographic device through at least one existing device interface (interface 1031 in Fig. 10) and comprising data collection (Fig. 7 and column 8, lines 46-55) and display functionality (display unit 1021 in Fig. 9), and a local user interface for operation and management of functionality locally (1021 and 1022 in Fig. 9), and,

wherein the embedded system comprises a device model agent representative of service management stored within the memory of the physical hardware of the electroreprographic device (control program storage area 16 in Fig. 1 has been interpreted as the equivalent to a device model agent), dynamic provisioning to automatically download software as needed to add, delete, update, and customize services (S304 and S306 in Fig. 7, where if the printer does not have the control program data necessary, it will be downloaded).

Chiba '459 discloses all the subject matter as described above except embedded system that is in communication with a remote services host and a remote asset management system for communicating through the local UI services to be selectively added to or performed on the electroreprographic device, which services are determined by the remote services host and the remote asset management system by the communication with the electroreprographic device model agent in response to active, dynamic monitoring of the electroreprographic device events, device status and consumable component supplies by the device model agent,

However, Whale '504 teaches embedded system that is in communication with a remote services host (170 in Fig. 6 and paragraph [0043], lines 1-3, where remote service host has been interpreted as a remote vendor for supplying consumables) and a remote asset management system (176 in Fig. 6 and paragraph [0050], where the order processing component is in charge of assessing the consumables needed, thus asset management) for communicating through the local UI services to be selectively added to or performed on the electroreprographic device (paragraph [0044], lines 4-9, where users can enter an order selectively to the vendor, where an assessment of the consumables is made (paragraph [0042], lines 7-14)), which services are determined by the remote services host and the remote asset management system by the communication with the electroreprographic device model agent (176 in Fig. 6 and paragraph [0050], where the order processing component is in charge of assessing the consumables needed, paragraph [0044], lines 4-9, where users can enter an order selectively to the vendor, where an assessment of the consumables is made (paragraph [0042], lines 7-14)) in response to active, dynamic monitoring of the electroreprographic device events, device status and consumable component supplies by the device model agent (paragraph [0042], lines 7-14),

Having a system of Chiba '459 reference and then given the well-established teaching of Whale '504 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the embedded system of Chiba '459 to include embedded system that is in communication with a remote services host and a remote asset management system through the APIs for

communicating through the local UI services to be selectively added to or performed on the electroreprographic device, which services are determined by the remote services host and the remote asset management system by the communication with the electroreprographic device model agent in response to active, dynamic monitoring of the electroreprographic device events, device status and consumable component supplies by the device model agent as taught by Whale '504 because this will allow marketing and promotional activities to be initiated at times when customers might be most receptive to such activities. Specifically, the techniques allow a vender to point out usage changes to a customer, thereby alerting the customer that decisions need to be made regarding purchase options. By both alerting a customer to this fact and at the same time offering enhanced pricing structures or other promotions, a vendor is able to maximize its promotional efforts (paragraph [0064]).

Chiba '459 and Whale '504 disclose all the subject matter as described above except specifically teaching a services platform and APIs for remote connectivity and device-centric services.

However, Kimura '097 teaches a services platform and APIs for remote connectivity and device-centric services (711 in Fig. 7 and column 6, lines 14-21, where APIs are a provided within an operating system of a PC and since Fig. 7 clearly shows a network (remoteness) it will provide a service platform for the remote connection).

Having a system of Chiba '459 and Whale '504 and then given the well-established teaching of Kimura '097 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the

embedded system of Chiba '459 and Whale '504 to include a services platform and APIs for remote connectivity and device-centric services as taught by Kimura '097 because it would be an advantage using existent components of an operating system, thus not incurring in unnecessary costs of implementation, since there are already tools available with the system in use.

(2) regarding claim 2:

Chiba '459 further discloses a networked, embedded personal computer in a housing with no direct input or output devices (50 in Fig. 1, where there is not apparent direct input or output for the printer control software (embedded system)).

(3) regarding claim 4:

Chiba '459 further discloses a UI available via a browser running on a computer on a network to which the system is connected (1021 in Fig. 9).

(4) regarding claim 33:

Chiba '459 further discloses wherein the services comprise one of operating software upgrades (S304 and S306 in Fig. 7, where if the printer does not have the control program data necessary, it will be downloaded), device stack supply or maintenance adjustments.

(5) regarding claim 34:

Chiba '459 discloses all the subject matter as described above except wherein the active, dynamic monitoring device status incorporates data of at least one of: billing meter, input-output terminal faults, media path jams, image area coverage, media use

by weight, size or type, feature usage, toner status, simple or duplex printing, media tray use, toner status, reduction and development, and highest frequency of service use.

However, Whale '504 teaches wherein the active, dynamic monitoring device status incorporates data of at least one of: billing meter, input-output terminal faults, media path jams, image area coverage, media use by weight, size or type, feature usage, toner status, simple or duplex printing, media tray use, toner status (paragraph [0042], lines 7-14), reduction and development, and highest frequency of service use.

Having a system of Chiba '459 reference and then given the well-established teaching of Whale '504 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the embedded system of Chiba '459 to include wherein the active, dynamic monitoring device status incorporates data of at least one of: billing meter, input-output terminal faults, media path jams, image area coverage, media use by weight, size or type, feature usage, toner status, simple or duplex printing, media tray use, toner status, reduction and development, and highest frequency of service use as taught by Whale '504 because this will allow marketing and promotional activities to be initiated at times when customers might be most receptive to such activities. Specifically, the techniques allow a vender to point out usage changes to a customer, thereby alerting the customer that decisions need to be made regarding purchase options. By both alerting a customer to this fact and at the same time offering enhanced pricing structures or other promotions, a vendor is able to maximize its promotional efforts (paragraph [0064]).

6. Claims 3, 5-6 and 8-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba et al. (US 7,187,459), Whale (US 2002/0188504) and Kimura (US 6,226,097) as applied to claims above, and further in view of Engstrom et al. (US 6,463,078).

(1) regarding claim 3:

Chiba '459, Whale '504 and Kimura '097 disclose all the subject matter as described above except wherein the system is connected to the IOT through at least two physical interfaces.

However, Engstrom '078 further discloses wherein the system is connected to the IOT through at least two physical interfaces (152 and 151 in Fig. 3).

Having a system of Chiba '459, Whale '504 and Kimura '097 and then given the well-established teaching of Engstrom '078 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the embedded system of Chiba '459, Whale '504 and Kimura '097 to include that the system is connected to the IOT through at least two physical interfaces as taught by Engstrom '078 because it would make the Chiba '459, Whale '504 and Kimura '097 system more versatile and able to have more connections with other devices providing more capabilities for the user to choose.

(2) regarding claim 5:

Chiba '459, Whale '504 and Kimura '097 disclose all the subject matter as described above except a web server.

However, Engstrom '078 teaches a web server (column 21, lines 45-47).

Having a system of Chiba '459, Whale '504 and Kimura '097 and then given the well-established teaching of Engstrom '078 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the embedded system of Chiba '459, Whale '504 and Kimura '097 to include a web server as taught by Engstrom '078 because it would make the Chiba '459, Whale '504 and Kimura '097 system more versatile and able to have more connections with other devices providing more capabilities for the user to choose.

(3) regarding claim 6:

Chiba '459 discloses in an embedded system (printer control software 20a in Fig. 1, it has been disclosed in applicant's disclosure that an embedded system in this particular case is a software element; the system is written strictly for the controlling of a printer, thus satisfying the definition of embedded system) comprising a server connected to an input-output terminal (interface 1031 in Fig. 10) of an electroreprographic device and to a network (1030 in Fig. 10), a method of interacting with the embedded system comprising:

using a browser as the local user interface for the embedded system (1021 in Fig. 9), and

wherein the embedded system comprises a device model agent representative of service management stored within the memory of the physical hardware device (control program storage area 16 in Fig. 1 has been interpreted as the equivalent to a device model agent), and dynamic provisioning (S304 and S306 in Fig. 7, where if the printer does not have the control program data necessary, it will be downloaded).

Chiba '459 discloses all the subject matter as described above except in communication with a remote services host and a remote asset management .system for communicating through the local UI services to be electively added to or performed on the electroreprographic device, which services are determined by the remote services host and the remote asset management system by the communication with the electroreprographic device model agent and further including communicating the services from the remote services host and the remote asset management system to the embedded system in response to active, dynamically monitoring electroreprographic device events, device status and consumable component supplies by the device model agent.

However, Whale '504 teaches embedded system that is in communication with a remote services host (170 in Fig. 6 and paragraph [0043], lines 1-3, where remote service host has been interpreted as a remote vendor for supplying consumables) and a remote asset management system (176 in Fig. 6 and paragraph [0050], where the order processing component is in charge of assessing the consumables needed, thus asset management) for communicating through the local UI services to be electively added to or performed on the electroreprographic device (paragraph [0044], lines 4-9, where users can enter an order selectively to the vendor, where an assessment of the consumables is made (paragraph [0042], lines7-14)), which services are determined by the remote services host and the remote asset management system by the communication with the electroreprographic device model agent (176 in Fig. 6 and paragraph [0050], where the order processing component is in charge of assessing the

consumables needed, paragraph [0044], lines 4-9, where users can enter an order selectively to the vendor, where an assessment of the consumables is made (paragraph [0042], lines 7-14)) and further including communicating the services from the remote services host and the remote asset management system to the embedded system in response to active, dynamically monitoring electroreprographic device events, device status and consumable component supplies by the device model agent (paragraph [0042], lines 7-14).

Having a system of Chiba '459 reference and then given the well-established teaching of Whale '504 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the embedded system of Chiba '459 to include embedded system that is in communication with a remote services host and a remote asset management .system for communicating through the local UI services to be electively added to or performed on the electroreprographic device, which services are determined by the remote services host and the remote asset management system by the communication with the electroreprographic device model agent and further including communicating the services from the remote services host and the remote asset management system to the embedded system in response to active, dynamically monitoring electroreprographic device events, device status and consumable component supplies by the device model agent as taught by Whale '504 because this will allow marketing and promotional activities to be initiated at times when customers might be most receptive to such activities. Specifically, the techniques allow a vender to point out usage changes to a customer, thereby alerting the customer that

decisions need to be made regarding purchase options. By both alerting a customer to this fact and at the same time offering enhanced pricing structures or other promotions, a vendor is able to maximize its promotional efforts (paragraph [0064]).

Chiba '459 and Whale '504 disclose all the subject matter as described above except for specifically teaching APIs for remote connectivity.

However, Kimura '097 teaches APIs for remote connectivity (711 in Fig. 7 and column 6, lines 14-21, where APIs are provided within an operating system of a PC and since Fig. 7 clearly shows a network (remoteness)).

Having a system of Chiba '459 and Whale '504 and then given the well-established teaching of Kimura '097 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the embedded system of Chiba '459 and Whale '504 to include APIs for remote connectivity as taught by Kimura '097 because it would be an advantage using existent components of an operating system, thus not incurring in unnecessary costs of implementation, since there are already tools available with the system in use.

Chiba '459, Whale '504 and Kimura '097 disclose all the subject matter as described above except a web server, and

configuring the embedded system with network information.

However, Engstrom '078 teaches a web server (column 21, lines 45-47), and configuring the embedded system with network information (column 4, lines 17-20).

Having a system of Chiba '459, Whale '504 and Kimura '097 and then given the well-established teaching of Engstrom '078 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the embedded system of Chiba '459, Whale '504 and Kimura '097 to include a web server, and configuring the embedded system with network information as taught by Engstrom '078 because it would make the Chiba '459, Whale '504 and Kimura '097 system more versatile and able to have more connections with other devices providing more capabilities for the user to choose.

(4) regarding claim 8:

Chiba '459, Whale '504 and Kimura '097 disclose all the subject matter as described above except wherein configuring the embedded system enables the embedded system to connect to an edge server.

However, Cabrera '183 teaches wherein configuring the embedded system enables the embedded system to connect to an edge server (column 4, lines 7-28 and Fig. 4B, where 202 it's being interpreted as an edge server).

Having a system of Chiba '459, Whale '504 and Kimura '097 and then given the well-established teaching of Engstrom '078 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the embedded system of Chiba '459, Whale '504 and Kimura '097 to include wherein configuring the embedded system enables the embedded system to connect to an edge server as taught by Engstrom '078 because by doing this the system will be secure and trusted, adding an additional level of security by having an edge server.

(5) regarding claim 9:

Chiba '459, Whale '504 and Kimura '097 disclose all the subject matter as described above except specifically teaching wherein the edge server manages the queues, messages, services, and transactions associated with the end-to-end operation of the device services.

However, Whale '504 teaches a network server that would performed the same end-to-end operations as that of the edge server (Fig. 6 and paragraph [0050]), therefore it would be within the skills of a person with ordinary knowledge of the art to have the same functionality in an edge server as that of the network server of Whale '504.

Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to configure the embedded system enables the embedded system to connect to an edge server as taught by Whale '504. By doing this the system will be secure and more efficient, since the edge is performing additional functionalities, thus increasing the versatility.

7. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chiba et al. (US 7,187,459), Whale (US 2002/0188504), Kimura (US 6,226,097) and Engstrom et al. (US 6,463,078) as applied to claims above, and further in view of Frailong et al. (US 6,496,858).

Chiba '459, Whale '504, Kimura '097 and Engstrom '078 disclose all the subject matter as described above except wherein configuring the embedded system includes loading network proxy, firewall password, and DNS IP addresses.

However, Frailong '858 further discloses wherein configuring the embedded system includes loading network proxy (column 5, lines 21-23, where a gateway is a proxy server), firewall password (column 5, lines 21-23, where the network security involving a firewall is being interpreted as firewall password since in order to have a secure network it is necessary to have a password to maintain the connection secure of possible threads), and DNS IP addresses (column 12, lines 57-60).

Having a system of Chiba '459, Whale '504, Kimura '097 and Engstrom '078 and then given the well-established teaching of Frailong '858 reference, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the embedded system of Chiba '459, Whale '504, Kimura '097 and Engstrom '0787 to include the embedded system connected to an IOT of an electroreprographic device through at least one existing device interface as taught by Frailong '858 because it would allow the system to be configure to work through a network at the same time that is making a secure connection, providing more capabilities for the user to choose.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to LENNIN R. RODRIGUEZ whose telephone number is (571)270-1678. The examiner can normally be reached on Monday - Thursday 7:30am - 6:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mark Zimmerman can be reached on (571) 272-7653. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Lennin R Rodriguez/
Examiner, Art Unit 2625

/Mark K Zimmerman/
Supervisory Patent Examiner, Art Unit 2625